REMARKS

Summary and Election of Species

The above amendments and these remarks are responsive to the Office action dated September 14, 2005. The above amendments cancel claims 1-9, amend claims 10, 12, 19, and 25, withdraw claims 13-18, 20-24 and 26-31, and add new claim 32. In the Office action, the Examiner has withdrawn from consideration claims 1-9, 13-18, 20-24 and 26-31 directed to a first species as identified by the Examiner. This was based on an oral election by the applicants of claims 10 and 11 directed to a second species made by the undersigned in a telephonic conversation on September 2, 2005 with the Examiner. The applicants affirm this election without traverse. Claims 12, 19 and 25 are generic. New claim 32 is directed to the elected second species of an imaging system having fixed antenna arrays.

In the Office action, claims 10-12, 19 and 25 were rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Publication No. 2002/0130804 to McMakin et al. In view of the amendments above and the remarks below, the applicants respectfully request reconsideration of the application under 37 C.F.R. § 1.111 and allowance of the pending claims. While these amendments do not alter the scope of the claims, they are provided to facilitate an understanding of the distinctions between the claims and the cited art.

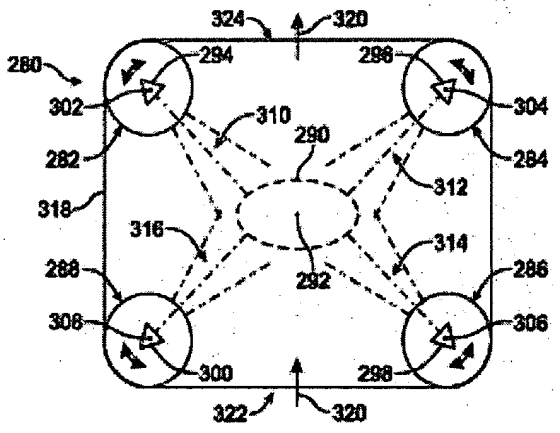
Rejections under 35 USC § 102

Claim 10 is amended to be directed to an imaging system comprising a frame

extending around a subject position; a plurality of antenna arrays fixedly mounted to the frame at locations distributed around and spaced from the subject position, each array including at least one antenna unit configured to transmit toward and receive from a subject in the subject position, electromagnetic radiation in a frequency range of about 200 MHz to about 1 THz, from a position fixed relative to and spaced from the subject position, each antenna array transmitting electromagnetic radiation toward a portion of a subject located in the subject position that does not receive electromagnetic radiation from at least one other antenna array; a transceiver configured to operate each antenna array and to produce an output representative of the received radiation; and a processor adapted to convert the transceiver output into image data representative of an image of the subject.

Figure 8 of the application, reproduced here, illustrates an example of such a system. In this example, an interrogation station 280 includes antenna apparatus 282, 284, 286 and 288 distributed around a subject position 290 having a subject center 292. Antenna apparatus 282, 284, 286 and 288 have respective antenna units, represented by antenna units 294, 296, 298 and 300. The respective antenna units are positioned along respective axes 302, 304, 306 and 308. The various antenna apparatus may be fixedly mounted to a frame 318.

Fig. 8



On the other hand, the system of McMakin et al. discloses a system having a single, circular array that moves vertically, as shown in Figures 8 and 9 of that reference, which are reproduced below. The associated description from McMakin et al. is also reproduced below.

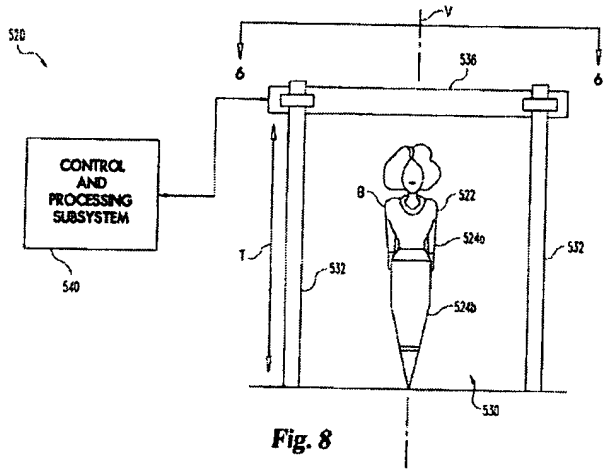


Fig. 8

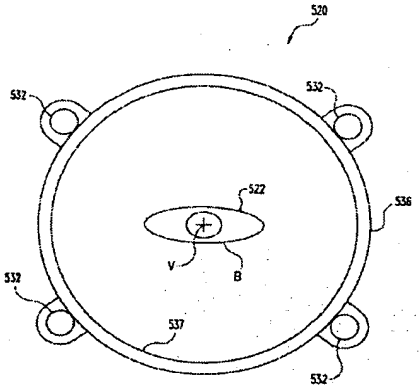


Fig. 9

The single array in this system is described as being a circular ring or hoop that travels vertically along axis V during scanning.

There are a couple of typographical mistakes in this description that may initially be misleading as to what is actually described. For example, the first time that the array is mentioned, it is

[0069] System **520** includes scanning booth **530** coupled to control and processing subsystem **540**. Scanning booth **530** includes frame **533** arranged to receive body B and support array **536**. In contrast to the linear arrays **36** and **436** of previously described systems **20** and **420**, array **532** is arranged as a ring or hoop generally centered with respect to centerline vertical axis V. A number of electromagnetic radiation transmitting/receiving elements are arranged in a generally circular pathway along the ring. These elements operate to interrogate body B with electromagnetic radiation including one or more wavelengths in the millimeter, microwave, and/or adjacent wavelength bands. Array **536** is arranged for translational movement along axis V to scan body B as represented by arrow T. One or more motors or other prime mover(s) (not shown) are utilized to selectively move array **536** along axis V.

[0070] Referring further to the partial top view of **FIG. 9**, array **536** is sized with opening **537** to receive body B therethrough as array **536** moves up and down along axis V. In **FIG. 9**, axis V is generally perpendicular to the view plane and is represented by crosshairs. With the vertical motion of array **536**, an imaginary cylinder is defined about body B in accordance with the circular path defined by the array ring; however, neither body B nor array **536** is rotated relative to the other, instead translational movement of array **536** is used to scan body B vertically.

identified as array 532. However, at every instance after that, it is referred to as array 536. Since the array is described as being circular, and elements identified as 532 are vertically columnar, the description is inconsistent with elements 532. Further, the frame is described as having reference number 533. There is no reference 533 shown in the figures. Also, other than the initial mis-identification of the array, reference 532 is not included in the description. It appears that it was intended that columnar elements 532 shown in the figures, and along which the array 536 travels, is actually the frame. Thus, while frame 532 is fixed, array 536 is not.

With this understanding, which provides consistency between the description and drawings, it is seen that the array 536 moves vertically relative to frame 532, and is not fixedly attached to it, as required by claim 10. The antenna units forming a circular ring in array 536, do not irradiate the subject from a position that is fixed relative to the subject position, as is also required by claim 10. In order for there to be anticipation under 35 U.S.C. § 102, every element of a claimed invention must be disclosed in a single reference. For at least these reasons, claim 10 is patentably distinct from McMakin et al.

Furthermore, because claim 11 depends from claim 10, claim 11 is allowable for at least the same reasons as claim 10. As discussed above, McMakin et al. do not disclose a system according to claim 10, in which at least three of the plurality of arrays are spaced around the subject position appropriate to direct electromagnetic radiation toward the entire circumference of a subject located in the subject position.

Claim 12 is directed to a method of imaging comprising transmitting toward a

subject in a subject position having a center, electromagnetic radiation in a frequency range of about 200 MHz to about 1 THz, from at least one position fixed relative to the subject position; scanning the transmitted electromagnetic radiation across at least a portion of the subject position from each of the at least one fixed position; receiving from the subject reflected electromagnetic radiation; producing an output representative of the received radiation; and converting the output into image data representative of an image of the subject.

Figures 7 and 8 of the application illustrate examples of systems that may be used to perform the method claimed in claim 12. Figure 8 is reproduced and discussed, in part, above. These figures illustrate systems in which each antenna unit scans a subject position from the position of the antenna unit by pivoting about a fixed pivot axis. Each of these antenna units resides at a position that is fixed relative to the subject position.

As discussed above, McMakin et al. disclose a system in which subject scanning is achieved by moving an array of antenna units vertically. Each antenna unit, then, scans by moving through a range of positions. Thus, McMakin et al. do not disclose scanning the transmitted electromagnetic radiation across at least a portion of the subject position from each of the at least one fixed position, as required by claim 12. Accordingly, McMakin et al. do not disclose or suggest the method of claim 12.

Claim 19 depends from claim 12 and is distinguishable from McMakin et al. for at least the reasons that claim 12 is distinguishable. Additionally, McMakin et al. do not disclose a method according to claim 12 that further includes scanning the transmitted

radiation from each of a plurality of spaced positions that are fixed relative to and distributed around the subject position. The rejection of claim 19 based upon McMakin et al. is therefore inappropriate.

Claim 25 is directed to a system of imaging comprising means for transmitting toward a subject in a subject position having a center, electromagnetic radiation in a frequency range of about 200 MHz to about 1 THz, from at least one position fixed relative to the subject position; means for scanning the transmitted electromagnetic radiation across at least a portion of the subject position from each of the at least one fixed position; means for receiving from the subject reflected electromagnetic radiation; means for producing an output representative of the received radiation; and means for converting the output into image data representative of an image of the subject.

Claim 25 is distinguishable from McMakin et al. for the reasons that claim 12 is distinguishable from McMakin et al. Specifically, McMakin et al. do not disclose at least means for transmitting toward a subject in a subject position having a center, electromagnetic radiation in a frequency range of about 200 MHz to about 1 THz, from at least one position fixed relative to the subject position;

means for scanning the transmitted electromagnetic radiation across at least a portion of the subject position from each of the at least one fixed position. McMakin et al. disclose a system that provides scanning by moving a horizontal array vertically. There is no scanning from a position fixed relative to the subject position.

New claim 32 is directed to the system of claim 10, in which each array includes a plurality of antenna units distributed vertically along the subject position, with each

array being fixed in position relative to the subject position. Accordingly, claim 32 is patentable over McMakin et al. for the same reasons as claim 10, as is discussed above. Further, McMakin et al. do not disclose or suggest a system of fixed vertical arrays distributed around the subject position. Accordingly, claim 32 is also distinguishable from McMakin et al.

Applicants believe that this application is now in condition for allowance, in view of the above amendments and remarks. Accordingly, applicants respectfully request that the Examiner issue a Notice of Allowability covering the pending claims. If the Examiner has any questions, or if a telephone interview would in any way advance prosecution of the application, please contact the undersigned attorney of record.

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail, postage prepaid, to: Mail Stop AMENDMENT, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on November 16, 2005.

Tamara Daw

Respectfully submitted,

KOLISCH HARTWELL, P.C.

Edward B. Anderson
Registration No. 30,154
Customer No. 23581
Attorney/Agent for Applicant(s)/Assignee
520 S.W. Yamhill Street, Suite 200
Portland, Oregon 97204
Telephone: (503) 224-6655
Facsimile: (503) 295-6679